SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Substance
Trade name: Maltol
CAS No: 118-71-8
Product code: M0200
Formula: C6H6O3
Synonyms: 2-methyl pyromeconic acid / 2-methyl-3-hydroxy-4-pyrene / 2-methyl-3-oxy-gamma-pyrene / 3-hydroxy-2-methyl-4H-pyran-4-one / 3-hydroxy-2-methyl-4-pyranone / 3-hydroxy-2-methyl-gamma-pyrene / 4H-pyran-4-one, 3-hydroxy-2-methyl / carixinic acid / larixinic acid / maltol / palatone / talmon / veltol / vetol

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

CHEMTEX USA
27-29 Dwight Place
Fairfield, 07004 - USA
T 862-702-8900 - F 862-702-8180
contact@chemtexusa.com - www.chemtexusa.com

1.4. Emergency telephone number

Emergency number: CHEMTEL:(800)255-3924

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Acute Tox. (Oral) H302
Skin Irrit. 2 H315
Eye Irrit. 2A H319
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US):

Signal word (GHS-US): Warning
Hazard statements (GHS-US):
H302 - Harmful if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS-US):
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors
P264 - Wash skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a doctor, a POISON CENTER if you feel unwell
P321 - Specific treatment (see see supplemental first aid on this label)
P330 - Rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltol (Main constituent)</td>
<td>(CAS No) 118-71-8</td>
<td>100</td>
<td>Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact: Wash immediately with lots of water (15 minutes)/shower. Soap may be used. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see ... on this label).

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Rinse immediately with plenty of water for 15 minutes. Take victim to an ophthalmologist. Do not apply neutralizing agents. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.


4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. May cause respiratory irritation.

Symptoms/injuries after skin contact: Tingling/irritation of the skin. Causes skin irritation.

Symptoms/injuries after eye contact: Irritation of the eye tissue. Causes serious eye irritation.

Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: Solid water jet ineffective as extinguishing medium. Do not use a heavy water stream.
### Maltol Safety Data Sheet

#### 5.2. Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fire hazard</strong></td>
<td>DIRECT FIRE HAZARD. Combustible. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion hazard</strong></td>
<td>DIRECT EXPLOSION HAZARD. Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD. Dust cloud can be ignited by a spark.</td>
</tr>
<tr>
<td><strong>Reactivity</strong></td>
<td>Upon combustion: CO and CO2 are formed.</td>
</tr>
</tbody>
</table>

#### 5.3. Advice for firefighters

| Precautionary measures fire | Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows. |
| Firefighting instructions | Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment. |
| Protection during firefighting | Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. |

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

| Emergency procedures | Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothing. |

| For emergency responders | Protective equipment: Equip cleanup crew with proper protection. |
| Emergency procedures | Ventilate area. |

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

| For containment | Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills. |

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

| Precautions for safe handling | Comply with the legal requirements. Clean contaminated clothing. Powdered form: no compressed air for pumping over. Avoid raising dust. Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. |

| Hygiene measures | Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling. |

#### 7.2. Conditions for safe storage, including any incompatibilities

| Storage conditions | Keep only in the original container in a cool, well ventilated place away from: Keep container tightly closed. |
| Incompatible products | Strong bases. Strong acids. |
### Incompatible materials
Sources of ignition. Direct sunlight.

### Heat-ignition
KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

### Prohibitions on mixed storage
KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) bases. (strong) acids.

### Storage area
Store in a dry area. Store in a dark area. May be stored under inert gas. Meet the legal requirements.

### Special rules on packaging
SPECIAL REQUIREMENTS: hermetrical. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

### Packaging materials
SUITABLE MATERIAL: plastics.

### 7.3. Specific end use(s)
No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<table>
<thead>
<tr>
<th>Maltol (118-71-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

#### 8.2. Exposure controls

**Personal protective equipment**: Avoid all unnecessary exposure.

**Materials for protective clothing**: GIVE GOOD RESISTANCE: rubber. PVC.

**Hand protection**: Gloves. Wear protective gloves.

**Eye protection**: Face shield. In case of dust production: protective goggles. Chemical goggles or safety glasses.

**Skin and body protection**: Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing. Wear suitable protective clothing.

**Respiratory protection**: Dust production: dust mask with filter type P2. Wear approved mask.

**Other information**: When using, do not eat, drink or smoke.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

**Physical state**: Solid

**Appearance**: Crystalline solid. Crystalline powder.

**Color**: Colourless to white

**Odor**: Pleasant odour Sweet odour

**Odor threshold**: No data available

**pH**: 5 - 7

**Melting point**: 161 °C

**Freezing point**: No data available

**Boiling point**: 248 °C

**Flash point**: > 100 °C

**Relative evaporation rate (butyl acetate=1)**: No data available

**Flammability (solid, gas)**: No data available

**Explosion limits**: No data available

**Explosive properties**: No data available

**Oxidizing properties**: No data available

**Vapor pressure**: No data available

**Relative density**: 1.2

**Relative vapor density at 20 °C**: 6.4

**Specific gravity / density**: 1159 kg/m³

**Molecular mass**: 126.11 g/mol


**Water**: 1.2 g/100ml
Maltol Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>0.09 (Experimental value)</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information
- Sublimation point: 93 °C
- VOC content: 0 %
- Other properties: May sublimate.

SECTION 10: Stability and reactivity

10.1. Reactivity
- Upon combustion: CO and CO2 are formed.

10.2. Chemical stability
- Unstable on exposure to light. Unstable on exposure to air. Not established.

10.3. Possibility of hazardous reactions
- Not established.

10.4. Conditions to avoid
- Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
- strong acids. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Oral: Harmful if swallowed.

**Maltol (118-71-8)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1410 mg/kg (Rat)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1410.000 mg/kg body weight</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td></td>
<td>pH: 5 - 7</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td></td>
<td>pH: 5 - 7</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>(single exposure)</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>(repeated exposure)</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Potential Adverse human health</td>
<td>Based on available data, the</td>
</tr>
<tr>
<td>effects and symptoms</td>
<td>classification criteria are not</td>
</tr>
<tr>
<td>Symptoms/injuries after</td>
<td>met. Harmful if swallowed.</td>
</tr>
<tr>
<td>inhalation</td>
<td></td>
</tr>
<tr>
<td>Symptoms/injuries after skin</td>
<td>Irritation of the respiratory</td>
</tr>
<tr>
<td>contact</td>
<td>tract. Irritation of the nasal</td>
</tr>
<tr>
<td></td>
<td>mucus membranes. May cause</td>
</tr>
<tr>
<td>Symptoms/injuries after eye</td>
<td>respiratory irritation.</td>
</tr>
<tr>
<td>contact</td>
<td></td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>Tingling/irritation of the skin.</td>
</tr>
<tr>
<td></td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>Irritation of the eye tissue.</td>
</tr>
<tr>
<td></td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swallowing a small quantity of</td>
</tr>
<tr>
<td></td>
<td>this material will result in</td>
</tr>
<tr>
<td></td>
<td>serious health hazard.</td>
</tr>
</tbody>
</table>

06/03/2015  EN (English US)  5/7
**SECTION 12: Ecological information**

**12.1. Toxicity**

Ecology - water : No data available on ecotoxicity.

**12.2. Persistence and degradability**

| Maltol (118-71-8) |  
|-------------------|-----------------|
| Persistence and degradability | Biodegradability in water: no data available. Not established. |
| ThOD               | 1.52 g O_2/g substance |

**12.3. Bioaccumulative potential**

| Maltol (118-71-8) |  
|-------------------|-----------------|
| Log Pow           | 0.09 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). Not established. |

**12.4. Mobility in soil**

No additional information available

**12.5. Other adverse effects**

Other information : Avoid release to the environment.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Additional information : Hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials : Avoid release to the environment.

**SECTION 14: Transport information**

**Department of Transportation (DOT)**

In accordance with DOT
Not regulated for transport

**Additional information**

Other information : No supplementary information available.

**ADR**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

| Maltol (118-71-8) |  
|-------------------|-----------------|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

**15.2. International regulations**

**CANADA**

No additional information available
Maltol Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute Tox. 4 (Oral) H302
Eye Irrit. 2 H319
STOT SE 3 H335
Skin Irrit. 2 H315
Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Xn; R22
Xi; R36/37/38
Full text of R-phrases: see section 16

National regulations
No additional information available

15.3. US State regulations
No additional information available

SECTION 16: Other information
Other information : None.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

Disclaimer:

150 River Road, Suite G3B, Montville, NJ 07045. Ph. # (973) 335-2500; Fax # (973) 335-2552.

CHEMTEX USA, INC. Provides the information contained herein in a good faith but makes no representation as to its comprehensiveness or accuracy. Certain data contain in this document is taken from literature and or referred from other sources available in the web. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose and take the responsibility for observing existing laws and regulations.